THE COMMONWEALTH MAP

A Status Report on the Layers

May 10, 2005

Prepared By: Kimberly Anness

Table of Contents

Overview

The pages below out each layer of the Commonwealth Map as adopted by the GIAC. This document will be updated accordingly anytime that new information regarding a layer becomes available. Information provided for each layer includes the following:

Data Steward: Entity responsible for the layer

Contact: Primary contact for the layer

Data Contributors: Other data layer contributor

Overview: Overview of the thematic layer

Status: Is the Layer complete, in-progress, being updated, . . .

Update Frequency: How often the layer is updated

KyGeonet Publication Status: Is metadata complete and has it been published?

TNM/TCM Registration Status: Is the layer complete statewide?

Problems/Issues: Any issues or concerns

Recommendations/Conclusions: Actions that need to be taken

Linkage to the National Map and full implementation of the Commonwealth Map and all of its associated services can be carried out with the current set available data layers. As other layers are "readied" by their stewards, they too can be added to the services accordingly. The focus should be on completing Parcels, Addresses, Structures, and Landcover.

Addresses

Data Steward: State Police
Contact: Ted Stumbur
Data Contributors: Area Development Districts, Commercial Mobile Radio Service, Kentucy Transportation Cabinet

Overview:
Address ranges will be applied to the statewide road centerline data. This information is needed for 911, emergency management, public program administration and public uses.

Status:
All counties must have accurate maps by 2006. Methodology has been completed. Standards have been approved by the GIAC. The ADDs are collecting the address ranges. Address ranges have been collected for 46 counties. The ADDs should be done collecting the data by June 30th, 2005.

Update Frequency:
All counties will be updated once a year and some counties will be updated twice a year.

KyGeonet Publication Status:
No.

TNM/TCM Registration Status:
Not ready to go. It will be years before this layer is statewide and seamless.

Problems/Issues:

Recommendations/Conclusions:

Boundaries

Data Steward: DGI
Contact: Kim Anness
Data Contributors: SOS

Overview:
There are many boundary layers that have been identified by the Boundary subcommittee, but it has been hard to get agencies to commit to a stewardship on any boundaries beyond city and county boundaries. It has also been discovered that although many agencies have boundaries they use, oftentimes it is only really important for that agency's use and may not be important beyond that (i.e. transportation regional office boundaries, environmental protection regional office boundaries, etc…).

Status:
All city boundary annexation are mapped to date, using filings from the Secretary of State's Office. The county boundaries were created as a compilation of many county boundary files using what was deemed to be the most correct boundaries during the late 90's.

Update Frequency:
The city boundaries are continually updated as the SOS Land Records Office sends new annexations to be mapped. As many as two-dozen annexations can be received during a given month. The data is updated on the KyGeonet on the 1st of every month.

The county boundaries are rarely updated and this will probably remain the case unless new county boundary surveys are done (SOS is very interested, but the funding to do so does not exist).

KyGeonet Publication Status:
Yes.

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7BE9973DFB-8797-49DE-A7E1-27DBC688C7D7%7D - County Polygons

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7BE47C580D-C62E-408B-A289-7DFCB9D8A876%7D - County Lines

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B2A745D08-3C3C-43CE-B142-561FA8C662A3%7D - City Lines

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B0080E813-DA72-4DD7-B947-2E59D1735928%7D - City Polygons

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:
The Boundary Subcommittee of the GIAC has identified all the possible boundaries that could be mapped, but no one has stepped up to the plate to do the legwork behind it. The list of boundaries is unwieldy and it will be a monumental task to ever get them all mapped and the metadata built.

Recommendations/Conclusions:

Only county and city boundaries should be focused on until there is more interest and movement with other boundary layers.

Census

Data Steward: U of L Data Center/ Census Bureau
Contact: Eric Schneider
Data Contributors:

Overview:
Census data is very important, but historically difficult to work with. Typically, the user has to "join" together the boundaries and the demographic information. This is usually difficult to do because the index fields between the boundaries and the demographic information typically don't match and it takes massaging to get the two to join. This is an especially daunting task for the new GIS user or anyone unfamiliar with the concept of relational databases.

Status:
The U of L Data Center is compiling the US Census Bureau information in order to provide it as a GIS dataset with attributes attached.

Update Frequency:
Just like the census, the data should be updated every 10 years.

KyGeonet Publication Status:
Some census data is published to the Kygeonet, but there is not much demographic information attached to it.

TNM/TCM Registration Status:
Not ready to go.

Problems/Issues:
As indicated above, Census data is historically difficult to work with. Also, we need to look at all the possible data fields we could get from the Census Bureau and determine which demographic information is most important or if we should carry all of it.

Recommendations/Conclusions:
Either the US Census Bureau or the U of L Data Center should provide the Commonwealth with a true geospatial solution, not just shapefiles and tables that can be joined together. DGI should get a list from the Census of all the demographic data that can be provided and determine which (if not all) demographics to provide.

Elevation

Data Steward: DGI
Contact: Kent Anness
Data Contributors: USGS

Overview:
Kentucky has DEMs with 10 meter postings statewide (or 30 feet). Previously, the DEMs were 30 meter postings. The newer DEMs are a vast improvement over the older ones in several regards. This layer is also known as Shaded Relief in that it was derived from the 10M DEMS.

Status:
The 10 Meter DEMs were completed in 2002 through a partnership with USGS. The 10 meter DEMs have been used to create statewide Hillshade and statewide Tagged Vector Contours (TVC).

Update Frequency:
As needed

KyGeonet Publication Status:
Yes, the 10M DEMS, Hillshade, and TVC datasets are published.

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7BB7218B76-15DB-4836-8EF6-19A5A2D7AB7F%7D

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:
None

Recommendations/Conclusions:
Data from the height modernization and flood map modernization projects should be incorporated when they become available.

Geodesy

Data Steward: National Geodetic Survey (NGS)
Contact: Ross Mackay
Data Contributors: None

Overview:
The geodesy layer consists of horizontal and vertical control points. The geodetic control layer has been improved and maintained through a partnership with the NGS. The Height Modernization project has recently received funding.

Status:
The Federal Base Network (FBN) points have just been added to the Commonwealth Map. The FBN includes a remeasurement of the HARN points plus adds around 80 more points to the network.

Update Frequency:
The Geodesy will be continually updated.

KyGeonet Publication Status:
Yes.

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B19B82908-F4F7-4264-AC7D-E601FD7345BD%7D

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:
NGS will be rolling out the Height Modernization which will require the establishment of a dozen CORs stations. Beyond this, they will need to develop additional stations by working with the universities, local governments and private industry.

Recommendations/Conclusions:
NGS needs to continue its effort to improve vertical control accuracy.

Geographic Names Information System (GNIS)

Data Steward: State Geographic Names Board
Contact: Steven Parkansky
Data Contributors: USGS, MSU, KGS

Overview
Kentucky has Phase 1 GNIS names. Phase 1 names are the names shown on the 24K USGS Topological maps and it is estimated that the Phase 1 names consist of one-quarter of all the names in the Commonwealth. Kentucky is one of 4 states in the nation that do not have Phase 2 names which are a beefed up version of the Phase 1 names. There are Phase 2 names for the urban areas of the state (Louisville, Lexington and Northern Kentucky). However, these names have to be officially recognized by USGS for them to be used in the National Map.

Status
For a couple of years the board has been trying to secure funding through USGS to create the Phase 2 names, but the money keeps being diverted to homeland security at USGS. The board meets regularly, but until funding can be secured Kentucky is stuck with Phase 2 names. USGS will be putting out an RFP in April for collection of Phase 2 names. Morehead State University is going to respond to the RFP.

Update Frequency
Until the Phase 2 names are funded and created, there will be no updates to the GNIS. If Phase 2 names are secured, it is recommended that the board oversee updates as needed.

KyGeonet Publication Status:
Yes. Populated Places Layer (PPL)

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B44C10401-77BE-11D6-B660-00105AABB46A%7D

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:
Obviously the first problem is the lack of funding for the Phase 2 names. Until the funding is in place Kentucky will have Phase 1 names only. Although the urban areas have Phase 2 names they need to be officially recognized by USGS before they could be used.

Recommendations/Conclusions:
Until the board secures funding, Phase 1 names will be used.

Hydrography (NHD)

Data Steward: DGI
Contact: Kim Anness
Data Contributors: USGS, EPPC, NHD Oversight Committee

Overview
The statewide National Hydrography Dataset (NHD) was completed in 2003. The NHD can be obtained for 24K and 100K scale.

Status
The NHD is complete. The NHD Oversight Committee will propose necessary revisions and vote on whether they should be made or not. Once the NHD Oversight Committeee signs off on revisions, DGI will make the revisions to the NHD dataset(s).

Update Frequency
None planned, as needed

KyGeonet Publication Status:
Yes.

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B71127426-642D-46CC-9BA2-34F526B4C4D0%7D

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B16389EE4-6F51-11D7-B6C3-0030BD058063%7D

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:
The NHD version on the KyGeonet (published by KGS) is not the most current. Changes have been made to the NHD by USGS and EPPC. DGI needs to get the most current version published or provide it to KGS. Also, KGS is erving up the 100K and 24K stream reach data, but the water body features are not on the KyGeonet. DGI needs to get all the NHD datasets published to the KyGeonet.

Recommendations/Conclusions:
DGI should make updates to the NHD as identified and voted on by the oversight committee. DGI should get the latest of all NHD datasets and publish them.

Land Cover

Data Steward: KLS/KLC
Contact: Susan Lambert
Data Contributors: NASA, Space Imaging

Overview:
Will provide land cover baseline for Kentucky. Can be used for change detection when compared with land cover information from other time periods. There are other derivations from the landcover. These include canopy cover, impervious areas and change detection masks.

Status:

Update Frequency:

KyGeonet Publication Status:
No. Metadata exists but it has not been published to the KYGEONET.

TNM/TCM Registration Status:
Not ready to go. Once metadata is published it is ready to go.

Problems/Issues:

Recommendations/Conclusions:

OrthoImagery

Data Steward: DGI
Contact: Kent Anness
Data Contributors: USGS

Overview:
Currently, there is a set of statewide black and white imagery taken from 1992 to 1998. New black and white imagery was flown in 2001 and 2002, but only covered the state east of the 84° longitude line. Soon there will be new statewide imagery taken in 2004 by the FSA in color. The new color imagery was taken during leaf-on. All of the aforementioned sets of imagery have a resolution of 1 meter. There is color homeland security imagery for the urban areas Lexington and Louisville and imagery of Northern Kentucky and Frankfort should be forthcoming. These images will have a resolution of approximately 1 foot.

All available imagery is available via the WAN and to internet mapping sites via KYRASTER. The DOQs are available for download in several different formats.

Status:
The black and white imagery is completed, but is older data. The FSA data is in process. The homeland security imagery is done for Louisville and Lexington. USGS is still working to get it for Northern Kentucky and Frankfort.

Update Frequency:
Statewide images should be updated as frequently as possible.

KyGeonet Publication Status:
The black and white imagery has been published. The FSA imagery has not be acquired yet and the issue of serving both the Lexington and the Louisville Homeland Security Imagery is being discussed. It is VERY large and an efficient way to distribute it has yet to be determined.

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7BDA082D60-7320-11D6-AF99-0008C7D3656F%7D

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:
The biggest issue is the need for funding of orthoimagery on a regular basis. Another issue is how to serve up all the different sets of orthoimagery.

Recommendations/Conclusions:
DGI needs to secure regular funding for the orthoimagery by working with the legislators.

Parcels

Data Steward: Department of Revenue (DOR)
Contact: Nick Kearney, Ron Johnson
Data Contributors: PVAs

Overview:
The Department of Revenue has used many methods to get the parcel data. They began scanning PVA maps and digitizing them in-house in 2000. In 2001 they began to work with Correctional Industries to train inmates to digitize the maps, 33 counties have been done this way. They have also gotten PVA staff people and students from universities to map the parcels.

Status:
The DOR has 102 counties worth of parcels done to date. Statewide there are about 1.9 million parcels out of 2.1 million parcels mapped. Their goal is to have all of the PVA maps digitized by the end of 2005. Once all the counties are done, DOR will begin to edge-match the parcels for each county. They have done some edge-matching to date. They anticipate this process to consume many hours and meetings with PVAs.

Update Frequency:
Department of Revenue envisions that the data will be continually kept up to date by the PVAs.

KyGeonet Publication Status:
No.

TNM/TCM Registration Status:
Not ready to go. It will be years before this layer is statewide and seamless.

Problems/Issues:
DOR has embraced the Internation Association of Assessing Officers (IAAO) standards, but these may or may not have been followed in the data collection effort. It is unclear who is going to be the integrator of all the county data (both initially and as updates are made).

This layer cannot be included in the Commonwealth Map until it has been completed for all counties and can be provided as a seamless layer of the entire Commonwealth.

Recommendations/Conclusions:
Some kind of standard needs to be developed so that an integration of data from each county can be done efficiently and effectively.

Structures

Data Steward: Department of Revenue
Contact: Nick Kearney, Ron Johnson
Data Contributors: PVAs, USGS

Overview:

The collection of structure data for the Commonwealth will be a monumental task. Most states are struggling with how (and if) to collect and maintain this data. The Department of Revenue recognized that the locals, specifically the PVAs, would be an excellent source for the data collection effort. Currently, there are 30 counties that have already collected structure data. USGS secured grant money to do pilot counties for the structures layer. The grant money will be used to purchase equipment and software for the collection of structure data. The pilot will include 10 counties, as chosen by the Department of Revenue. The PVAs in each of the counties will map all Level 1 structures as identified by USGS (top priority for structure collection). The PVAs are required to use the grant money to buy specific GPS units and specific software software. USGS plans to continue funding the effort in previous years.

Status:

The Department of Revenue is working with MapSync, Inc. for the data collection. MapSync is setting up the GPS units with data dictionaries for the 10 pilot counties. Once the data dictionary is built, the PVAs in the 10 counties will be ready to go collect the data.

Update Frequency:

Department of Revenue envisions that the data will be continually kept up to date by the PVAs.

KyGeonet Publication Status:

No. There is currently nothing to publish.

TNM/TCM Registration Status:

Not ready to go. It will be years before this layer is statewide and seamless.

Problems/Issues:

It is unclear who is going to be the integrator of all the county data (both initially and as updates are made). If the PVAs collect data beyond the Level 1 structures it may be difficult to "pull out" only those structures that are classified as Level 1.

Recommendations/Conclusions:

Since this is such a large undertaking, it is recommended that the data collection effort focuses on the Level 1 structures as identified by USGS for the 10 pilot counties. Until all the Level 1 structures have been collected, little effort should be spent on trying to incorporate the other structures. Some kind of standard needs to be developed so that an integration of structure data from each county can be done efficiently and effectively. Once data has been collected it should be published to the KYGeonet.

Topography (KRGs)

Data Steward: DGI
Contact: Kent Anness
Data Contributors: USGS

Overview:
Currently, there is a set of statewide topographic imagery based on the high-resolution Kentucky Raster Graphics or, KRGs. The image data is available for download by quadrangle and the base data is available across the WAN and to internet mapping via KYRASTER.

Status:
Complete.

Update Frequency:
As needed.

KyGeonet Publication Status:
Yes.

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B397A8D3C-7C95-11D6-AF9A-0008C7D3656F%7D

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:
None.

Recommendations/Conclusions:
None.

Transportation

Data Steward: KYTC
Contact: Will Holmes, Danielle Buchanan
Data Contributors: ADDs

Overview
The Kentucky Transportation Cabinet contracted with the Area Development Districts to GPS all road centerlines in the state. The original mapping was completed in 2004. The rail has been collected by Wilbur Smith, including abandoned rail. Their Aviation and Planning Department is working on the airports and airport runways. Their Planning Department is working on riverports. They also maintain bike trail data.

Status
KYTC is currently in GPS maintenance phase.

Update Frequency
Updates to the road centerlines will be done based on growth in the counties. The update frequency will vary from once to twice a year. All other data layers will be maintained in-house.

KyGeonet Publication Status:
Yes.
http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B0071A35B-A979-11D6-B5B0-00B0D017D43B%7D

http://kygeonet.ky.gov/metadataexplorer/explorer.jsp?&goTo=details&docId=%7B0071A359-A979-11D6-B5B0-00B0D017D43B%7D

TNM/TCM Registration Status:
Ready to Go!

Problems/Issues:

Recommendations/Conclusions:
The Commonwealth Map should only include the road centerlines until other layers become available and published to the KYGeonet.